

**INFLUENCE OF LEVERAGE ON FINANCIAL PERFORMANCE OF DEPOSIT-
TAKING SACCOS IN KENYA**

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COMMERCE IN THE SCHOOL OF BUSINESS AT KCA UNIVERSITY**

DECLARATION

I declare that this is my original work and has not been submitted to any university for academic award.

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ABSTRACT

In today's business environment, deposits taking SACCOs are now competing with commercial banks for customers. Deposits taking SACCOs have therefore resorted to borrowing from commercial banks to satisfy their member's demand for loans. Member deposit as source of finance in Deposit taking SACCOs also attract interest which must compete with banks rates on deposit. The influence of leverage on financial performance of deposit taking SACCOs is therefore crucial in helping management make informed capital structure decisions. While past studies on capital structure in Deposit taking SACCOs in Kenyan have used correlation and regression analysis, no paper has considered long term debt, short term debt and total debt separately. The purpose of this study was to investigate influence of the different levels of leverage on the financial performance of deposit taking SACCOs in Kenya. The measure of financial performance were return on assets, return on equity and earnings per share. This study adopted a descriptive research design. Since the period of the study was four years from year 2011 to year 2014 our population was the 44 Deposit taking SACCOs licensed in 2011. The study used data limited to deposit taking SACCOs that were registered with Sacco Society Regulation Authority (SASRA) for the period of four years from year 2011 to year 2014. This study applied panel regression data analysis. The study concludes that debt financing influence the performance of SACCOs. The three levels of debt financing that is total debt, long term and short term debt has varying effect on financial performance of SACCOs. Total debt to assets ratio was seen to be positively linked to return on assets while long term debt had an inverse relationship with return on assets. Short term debt had insignificant relationship with the three measures of performance that is return on assets, return on equity and earnings per share. The study therefore recommends that based on these findings managers in SACCOs should focus more on short term debts to finance their operations rather than long term debts in order to give favorable financial results.

Key Words: Total debt, Long Term debt; Short Term Debt; Financial Performance

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DEDICATION

I dedicate this project to my daughter Joy Njambi who continues to be my source of motivation.

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LIST OF ABBREVIATIONS

DTS- Deposit Taking SACCOs

ICA-International *Co-operative* Alliance

MDGs -Millennium Development Goals

NDTS-Non-Debt Tax Shield

OLS -Ordinary Least Squares

ROE-Return on Equity

ROA – Return on Assets

EPS- Earnings per share

SACCO -Savings and Credit Cooperative

SASRA- Sacco Society Regulation Authority

SMEs-Small and Medium Enterprises

OPERATIONAL DEFINITION OF TERMS

Co-operative is an independent group of individuals joined willingly to achieve common desires and aspirations facilitated by a mutually owned and democratically restricted enterprise (Bottelberge & Agevi, 2010, ICA1995).

Savings and Credit Cooperative (SACCO); society is a saving and credit cooperative society as recognized in cooperative society act, 1997 (Republic of Kenya, 2003).

Profitability; This refers to the earning capacity of a profit making organization

Capital Structure; This refers to the composition of ownership by debt holders and shareholders Song H. (2005); Zingales, (1995); Myers (1984) .

Long term debt is firm debt repayable more than one year after the date of issue also called funded debt (Jaffe et.al, 1998).

Short term debt refers to current liabilities or debt due less than one year after the date of issue also called unfunded debt (Jaffe et.al, 1998).

CHAPTER ONE

INTRODUCTION

This chapter covers the background of the study that is a brief background on Sacco societies in Kenya. It also introduces capital structure concept as well as highlighting the statement of the problem, general and specific objectives of the study.

1.1 Background of the Study

Capital structure refers to the way a firm finances its assets and operations (Breary & Myers, 2003). Broadly speaking, firms finance their assets and operations through debt, short term or long term and through issue of equity and also through reserves such as retained earnings. An unlevered firm is one which does not have debt in its capital structure whereas a levered firm has debt component in its capital structure (Song, 2005). Song, (2005) goes on to define two leverage terms; operational leverage and financial leverage. Operational leverage is related to company fixed operating cost while financial leverage relate to company debt also referred to as gearing. Operation leverage relates to the business risk whereas financial leverage is associated with financial risk.

Leverage is an important component of capital structure decision. The importance was realized following the seminal works of Modigliani and miller (1958). According to Modigliani and Miller (1958) debt financing is more beneficial in terms of value of the firm. This is because in the world of corporate tax the interest paid on debts is tax exempt. However, it is also noted that debt financing may lead to financial distress and subsequent bankruptcy. Firms borrow to reinvest the funds so as to earn higher returns than cost of capital. For the firm profit from borrowed funds, marginal rate of return on asset (ROA) should be higher than rate of interest payable to the borrowed funds (Gwenyi & Karanja, 2014). Given, the objective of finance manager is to maximize profit and consequently the share holder's wealth through prudent sourcing and management of capital structure.

Important factors in Sacco's capital financing are that one, SACCOs operate in regulated environment. SASRA, which is the regulating body has set minimum capital threshold on which SACCOs must operate. Secondly, since SACCOs are formed and owned by members with an aim of improving member's welfare, more often than not, they grant

loans at low interest rates (lower than bank lending rates) and require dividends every financial year. Moreover due to their nature as vehicle to reach low income earners and eradicate poverty some SACCOs get donations and grants from international and local donors. However, these grants are not reliable source of finance since they may not be available always.

As noted above, SACCOs have unique business model and capital structure. Their business concept is based on social welfare whereby members come together to benefit financially by saving and consequently accessing loans from the Sacco. As such the main source of capital for most SACCOs are the members deposits which also form part of loan qualifying factor; a member deposit is multiplied three or four times depending with the Sacco to qualify him or her for a loan. SACCOs also mobilize shares from members which are the basis of membership to the SACCO. Some SACCOs may get donations and grants although as noted earlier these are not guaranteed.

As SACCOs seek to finance their business through debt financing, they may borrow at a higher interest rate and hence affect their lending business. This is particularly so because SACCOs lending rates do not shift with market rates. Debt financing may therefore be seen to be an expensive source of lending funds for SACCOs. Moreover, Kivuvo and Olweny (2014) noted insolvency as a major risk facing Deposit Taking SACCOs in Kenya. Likewise a survey by FSD (2013) noted liquidity as major challenge facing deposit taking SACCOs. Therefore, the effect of debt financing and in effect capital structure in debt financing deserves more attention to avert risk and to ensure that firms make informed decision on sources of funds.

1.1.1 Overview of Deposit taking SACCOs

Credit cooperatives popularly known as Savings and credit Cooperatives (SACCOs) are a subsector of the wider cooperative movement. A co-operative is an independent group of individuals jointed willingly to achieve common desires and aspirations facilitated by a mutually owned and democratically restricted enterprise (Bottelberge & Agevi, 2010; ICA, 1995). SACCOs are formed with the objective of enhancing the savings of members and facilitate access to loans at relatively affordable interest rates. They also encourage savings

among the members as well as encouraging them to make proper financial and investment decisions. As cooperatives, SACCOs follow the guidelines set by International Cooperatives Alliance (ICA, 1995). Thus SACCOs are based on social welfare concept (Muthama, 2011) where the main sources of capital are member contribution, retained earnings and at times donations.

Other sources of funds for SACCOs include member deposit and borrowing from commercial banks particularly Cooperative bank of Kenya. It is also important to note that the main business of SACCOs is lending and as such loans form the biggest assets for SACCOs. SACCOs play a key role in any economy. First and foremost SACCOs contribute in the mobilization of savings throughout Kenya (Allen and Maghimbi, 2009). SASRA report (2011) indicates that there are a total of 3632 registered SACCOs which had 2.3 million members, a total asset of Ksh.248 billion and deposit of Ksh 180 billion. They also create employment; the ministry of Cooperative Development & Marketing (2008) estimated that the Cooperative movement, SACCOs included, employed over 300,000 people directly and 1.5 million people indirectly. In addition to providing employment opportunities, SACCOs create income for the youth, farmers and the low income earners.

Accordingly, the Coop Africa paper ads, in 2007, SACCOs in Kenya had over 6 million shareholders, and majority of the members are actively engaged in the borrowing activities of the SACCO. The growth of the SACCOs is therefore instrumental in creating income generating activities to the people Finaccess, (2009). SACCOs can help in the achievement of health, educational, gender equality and child mortality among other Millennium Development Goals Birchall, (2003). Another critical role of SACCOs, which cannot be underestimated, is the spread of SACCOs to the rural areas and low and middle income earners in urban areas. This has enhanced the ability to reach population which are originally left out by mainstream banks and to some extent b the Micro finance institutions Branch, (2005); Munyiri, (2006) as quoted by (Jagongo, Mbewa & Olando, 2012).

Moreover research has shown that SACCOs adopt a conservative lending model and are therefore seen to cushion members from adverse global economic down turn (SASRA Report 2011). It is worth mentioning that SACCOs bridge a very vital gap in the financial

sector in Kenya. They reach out to low income earners and rural population which are left out by the mainstream banks. In 1990s the main banks pulled away from the rural areas sitting high operation cost and forced many customers to close their accounts due to the raised minimum balance.

The gap was bridged by SACCOs which evolved from not only giving loans but also taking deposit in what is called the front office operation (FOSA). Regularization of deposit taking SACCOs in 2008 through the Sacco Societies Regulation Authority (SASRA) was and is meant to enhance Sacco business and as such, protect member deposits as well as create confidence among people as a way of encouraging them to join SACCOs. This study sought to investigate the influence of leverage on the financial performance in deposit taking SACCOs in Kenya.

1.2 Statement of the Problem

Among the challenges facing SACCOs are liquidity risk, operation inefficiencies, and high level of credit risk, non-performing loans, and inability to meet member loan demand among others (FSD, 2013; Mudibo, 2005; Ademba, 2010; Muthama 2011). Moreover, in today's business environment, deposits taking SACCOs are now competing with commercial banks for customers. Banks are offering unsecured loans without requiring deposits from members and at a long loan repay duration (Muriithi, 2013). Deposit taking SACCOs have therefore resorted to borrowing from commercial banks to satisfy their member's demand for loans (Ademba, 2010). Member deposit as source of finance in Deposit taking SACCOs also attract interest which must compete with banks rates on deposit.

Deposit taking SACCOs also face a challenge in deposit since they are viewed as unstable and therefore risky as well as the fact that most members only receive payments through the SACCOs account with little amount being retained as deposit apart from the amount they use to qualify for loans (Muthama, 2011; Mudibo, 2005). Debt financing as a source of fund for Deposit taking SACCOs would have a challenge since the interest seem to be higher borrowing from the commercial banks at high interest rate. Deposit taking SACCOs therefore need to evaluate the effect of debt financing on the financial performance of their firms.

While the influences of capital structure on other organizations, including banks, have been researched on, for instance, Amidu (2007); Ebaid, (2009); Siddiqui and Shoai (2011); Saeed, Gull and Rasheed (2013) among others few studies have focused a similar attention to deposit taking SACCOs. Ongaki (2012) researched on the determinants of profitability in Deposit taking SACCOs and micro finance institutions. Gwenyi and Karanja (2014) researched on the effect of leverage on financial performance of deposit taking SACCOs Opala (2014) researched on financial stability and performance in terms of return on capital employed for Deposit taking SACCOs in Nairobi County. Other research works include Mwandu (2014), Muide (2014) Kivuvo and Olweny (2014). This is despite the fact that this is a key concern to both management and owners of deposit taking Sacco. It has also been noted that SACCOs in Kenya have challenges with liquidity, and insolvency has been noted as a major risk factor in deposit taking SACCOs.

While past studies on capital structure in Deposit taking SACCOs in Kenyan have used correlation and regression analysis, no paper has considered long term debt, short term debt and total debt separately. Song (2005) advocated for separation of short term debts and long term debts in saying that it gives more elaborate results in evaluating effect of capital structure on financial performance of a firm. Similarly, Ebrati, Emadi, Balasang & Safari (2013); Emaid (2007); Ebaid (2009); separated the debt financing to long term debt, short term debt and total debt. Moreover most of the research work on capital structure and financial performance in Kenyan SACCOs has drawn samples from specific counties like Machakos count, Muranga count and Nairobi County.

This paper sought to improve the research work on influence of leverage in deposit taking SACCOs by using panel data regression. Also by separating the leverage variables into total debt, short term debt and long term debt as a ratio of total assets, the paper sought to evaluate how each debt component affect financial performance of deposit Taking SACCOs. The aim of this paper, therefore, was to evaluate the influence of leverage on the financial performance of deposit taking SACCOs in Kenya.

1.3 Objectives of the Study

1.3.1 General Objective

The purpose of this study was to investigate the influence of leverage on the financial performance in deposit taking SACCOs in Kenya.

1.3.2 Specific Objectives

1. To determine the effect of total debt to total assets ratio on the financial performance of deposit taking SACCOs in Kenya
2. To examine the effect of long term debt to total assets ratio on financial performance of deposits taking SACCOs in Kenya.
3. To analyze the effect of short term debt to total assets ratio on the financial performance of deposits taking SACCOs in Kenya.

1.4 Significance of the Study

The study would contribute to the existing body of knowledge, as well as make up for the paucity of scholarly papers in Kenya on firms' capital structure and their market values. Also, the findings of this study would aid an effective and efficient financing decision of SACCOs in Kenya. The study might also benefit consultants and financial analysts who would find the study helpful in their financial and advisory services to failing and distressed SACCOs. The Regulatory Authority (SASRA) may also use the study findings to assess and draw policy guidelines on SACCO financing.

1.5 Scope of the Study

The conceptual scope of this study lay on the influence of leverage on financial performance of deposit-taking SACCOs in Kenya. The specific context of the study was the all Deposit Taking SACCOs which were licensed from year 2011 to year 2014. This study was limited to Deposit Taking SACCOs where special focus was on the Head Office in Nairobi. This involved collecting information from the audited annual reports of deposit-taking SACCOs in Kenya. This was relevant in collecting the data required as finances and distances are the limiting factors that inhibit collecting the data from all the Deposit Taking SACCOs across the Country. This study was carried out in a period starting July 2015 to September 2015.

1.6 Limitations of the Study

The research foresaw several limitations in the process of carrying out the study. First there could have been limitations of isolating the effects of other factors that influence financial performance from the capital structures of SACCOs in Kenya. To counter this limitation the research considered the effects of other factors to be statistically constant for the period between years 2011 to year 2014 to enable computation of the effects of leverage on the financial performance of SACCOs in Kenya.

The findings of this study are limited to deposit taking SACCOs that had been licensed for the 4 year period that the study covered, that is, 2011 to 2014. These deposit taking SACCOs were 44. It thus, follows that the results of this study is not necessarily representative of the entire population of all the SACCOs in Kenya.

The study also faced limitations owing to the differences in classifications of assets and liquidity among the deposit taking SACCOs. The study would have been faced with challenges of errors in the measurement of leverage. These errors could arise due to difficulties to accurately and comprehensively measure or determine capital structures within the period under investigation. To mitigate this problem, the research considered only the documented information from the recognized sources such as SASRA Reports.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

The chapter explores the literature that focuses on the determinants of capital structure and their impact on performance of deposit-taking SACCOs in Kenya. The chapter commences by reviewing the theories that informed the discussion on capital structures on performance. It then dwells on the empirical studies that discuss the determinants of capital structure and their impact on performance of deposit-taking SACCOs in Kenya.

2.2 Theoretical Orientation

The study is hinged on various theories; these are Modiglianiii and Miller's Capital Structure Irrelevance theory, Pecking order theory, asset trade off theory and agency cost theory. Other theories such as production theory and market timing theory are beyond the scope of this research.

2.2.1 Modiglianiii and Miller's Capital Structure Irrelevance theory

In their seminal paper, Modiglianiii and Miller (1958) stated that under perfect market conditions, capital structure (debt-equity) ratio has no effect on the value of a firm and that the value of a firm is mainly determined by the return on assets regardless of the mix of capital structure. Their arguments were based on the famous propositions in perfect market conditions (MM model). According to the MM model, the capital structure does not determine the value of an organization but rather return on assets does that. Thus the capital structure is not dependent of the market value of a firm. Consequently the worth of an organization in debt and that of the organization without debt ought to be the same. Contrary to this arbitrage between the two organizations occurs through a personal leverage method which has the same end result for both organizations (Pandey, 2005).

The Modiglianiii and Miller model of capital structure was established on the basis of the arbitrage behavior of investors and the risk-averse behavior of investors. This proposition enables investors to pursue homemade leverage by switching their investments from an unlevered firm to a levered firm or vice versa. By borrowing on a personal account at a risk free rate and buying shares of the unlevered firm, investors can create homemade

leverage. The other way around, investors can undo undesirable leverage by buying fewer stocks of the levered firm and lending at a risk free rate. As investors have this opportunity, they are not willing to pay a premium for levered firms over unlevered firms. Hence, the value of the two companies, Identical in all aspects except their capital structures, should be equal. (Pandey, 2005).

In a subsequent paper, MM (1963) relaxed one of their assumptions and recognized the importance of corporate taxes. Because interest expenses are tax deductible, they introduce an interest tax shield in their model. Due to the interest tax shield, the value of the levered firm increases or the cost of capital decreases. Every extra dollar of debt lowers tax payments. If debt is assumed to be risk-free and there are no offsetting costs associated with leverage, firms will try to shield as much taxable income as possible?

2.2.2 Pecking Order Theory

Pecking Order Theory, states that capital structure is driven by firm's desire to finance new investments, first internally, then with low-risk debt, and finally if all fails, with equity. Therefore, the firms prefer internal financing to external financing (Myers and Majluf, 1984). Both the small organizations and the big organizations can apply the Pecking Order Theory. Adverse selection challenges which are explained by credit rationing and opaqueness of small organizations cause them to bear high costs of information (Margaritis and Psillaki, 2010).

The levels of asymmetric information of small organizations are high in that the nature of the quality of such organization's financial statements differs. According to Pettit and Singer (1985) small organizations could desire to keep away from the associated costs although financiers could have wanted audited financial statements. The incurrence is very high when giving new capital but for internal finances they do not exist; the cost is an in between position between internal funds and equity. This leads to organizations opting first, for retained earnings for financing, then go for debt and equity is selected as a last resort (Pettit and Singer, 1985).

2.2.3 Agency cost Theory

Jensen (1986) invented the agency cost theory of capital which explains that one way of addressing control or monitoring is leverage which minimizes the agency problem and as a result increases the value of the organization. Increased leverage measures leads to several repercussions. Pumping of resources into new non-profit making investments might not be done by the management in that such investments may not constitute cash flows and as a result payments on debt interest might not be made on time by the managers. Furthermore profit generation might not be possible leading to lack of shareholder compensation in terms of dividends.

In addition, the management may be obliged to give out cash flows if they increase the leverage mechanism which includes future cash flows to the owners of bonds as their time frame could be specified and at the same time the amount be fixed. An organization can be taken to be bankrupt by the owners of bonds or debt holders if the management does not address the issue properly. In addition the situation could lead to the management being more stimulated to reduce their spending in form of unnecessary bonuses and at the same time increase their productivity (Graham and Harvey, 2001).

Other authors agree that an organization's leverage is bound to be up if the extent of moral hazard is increased and leads to the management being obliged to pay for the charges associated with the debt (Jensen, 1986). For this reason unnecessary management perks are brought down. Studies which have been broadly conducted imply that debt can be used as a self implementation governance instrument and where debt is given, for principle and interest obligations to be met, the management is obliged to create income to fund such obligations (Shaheen & Malik, 2012).

2.2.4 The trade off theory

In the Modigliani Miller theory when corporate tax was considered in the irrelevance theory, the debt served to shift earnings from debt (Modigliani and Miller, 1963). The proponents of this theory Kraus and Litzenberger (1973); Miller (1977), believe that there is benefit derived when a firm uses debt financing. This is because interest on debt reduces taxable profit thus creating more value for shareholders as compared to a firm with no debt

financing. The flip side is that there are costs associated with debt financing such as bankruptcy cost in case a firm is unable to meet obligation to debt holders (the principle must be repaid and interest is fixed).

As such the tradeoff between the cost of debt and its benefit should be sought by evaluating the marginal benefit derived from increase in debt. The marginal benefit derived from increase in debt can be used to determine the debt equity ratio that a firm should employ. According to Myers (1984) firms follow a Static debt to value ratio which is determined by balancing debt tax shield against cost of bankruptcy.

2.3 Firm performance

Return on assets. Return on assets is an accounting ration that shows how much a firm has been able to derive from its assets. It is measured by net income to total assets ratio. It is generally used as a measure of a firm's performance with a measure of over 5% being considered a good firm performance.

Return on equity is a ratio of net income attributed to shareholders to shareholders equity. It is also a measure of financial performance that shows how much income has been derived from shareholder's equity. Generally a rate of 15-20% is considered favorable performance.

It is worth noting that while some researchers have used return on assets, return on equity and earnings per share as a measure of financial performance in firms, there are diverse financial performance measures used in other studies as well. For instance Coleman (2007) used outreach and default rate in small and medium enterprises in Ghana as measure of financial performance. Other measures of performance include market book value of Equity Tobin's Q (Ebrati,Emadi,Balasang and Safari(2013), Profit margin, profit efficiency (Pratomo and Ishmail (2006); Gweny & Karanja (2014). In this paper, the researcher use return on assets, return on equity and earnings per share as financial performance measure in SACCOs.

2.4 Leverage and Firm Performance

Leverage refers to debt financing in a firm. An unlevered firm is one which does not have debt in its capital structure whereas a levered firm has debt component in its capital structure (Song, 2005). Song, (2005) goes on to define two leverage terms; operational leverage and financial leverage. Operational leverage is related to company fixed operating cost while financial leverage relate to company debt also referred to as gearing. Long term debt refers to long term loans with repayment of over one year while short term debt refers to loans and other debts falling due within one year. Total debt is a combination of all the firm's liabilities (Jaffe et.al, 1998).according to MM theory, in world with taxes interest on debt is tax deductible creating what is referred to as tax shield. This increases the value of levered firm over that of an unlevered firm. The trade off theory on the other hand introduces the argument on cost for borrowing and associated costs due to possible financial distress and bankruptcy.

According to Jensen and Meckling (1976) agency cost which arises due to conflict between managers and owners could be addressed by the choice of debt equity ratio firms choose. Thus, according to these authors, capital structure affects firm's performance. Other authors have mixed results on the relationship between capital structure and performance for instance Ebaid (2009) argues for negative relationship between debt equity ratio and performance for companies registered in Egyptian stock market.

Amidu (2007) found a negative relationship between debt equity ratio and profitability from a survey conducted in Ghana financial institutions, supporting findings by Titman and Wessels (1980) who found similar results. This was in support of pecking order theory which argues that high profitable institutions prefer to use retained earnings to support their capital requirement as opposed to debt. The author used three aspects of leverage that is total debt to capital ratio long term debt to capital ratio and short term debt to capital ratio as well as asset structure, tax, size and sales growth as the determinants of

capital structure. Performance measure used in this study was return on asset, return on equity.

Amidu (2007) also found that the banks use more short term debt than long term debt. Pratomo and Ishmail (2006) tested the agency hypothesis in Malaysian banks and found a positive link; the higher the debt equity ratio the higher the profit efficiency. Abbu-Rub and Abbadi (2012) conducted a similar study on Palestinian banks and found out that Palestinian banks had low return on asset and low return on equity due to lower loans to asset ratio and loans to deposit ratio. This resulted to the lower correlation between loans and return on equity and loans and market value. They however found a strong positive correlation between total deposit to total assets (which were their measure of leverage) to efficiency and market value. Similarly Saeed, Gull and Rasheed (2013) found a positive link between total debt with accounting measures of performance that is return on asset, return on equity and earnings per share. They used asset growth and firm size as control variables.

2.4.1 Other factors affecting firm performance

Firm size: Various studies on capital structure and performance of firms have used different control variables. For instance Saeed, Gull and Rasheed (2013) used firm size and asset growth as control variables. They found that total debt to capital and firm size has a strong positive connection same with return on asset, return on equity and earnings per share. Assets growth had a negative insignificant impact upon return on asset and return on equity, while a negative significant impact on profitability as measured by earnings per share. Victor and Badu (2012) used firm size, firm age and size of board to determine the relationship between capital structure and firm performance of SMEs in Ghana while Hasan et.al (2014) used firm size as control variable. Iavorskyi (2013) used firm size, industry dummy and entry exit as control variables.

Studies in relationship between size and financial performance and leverage such as Marsh (1982); Fama and Jensen (1983); Rajan and Zingales (1995) suggest that large firms prefer long term debt to short term debt. They argue that large firms are more diversified, have more stable cash flows, and are have less probability of becoming bankrupt. Large

firms also avail more information to lenders and their cost of issuing debt is lower compared to small firms. Thus they argue that size is positively related with leverage. However, Wald (1999) found different results firms in German in that larger firms had low debt level. This however was attributed to ownership structure of the large firms in the study.

Firm age: The size of firm may influence its performance and so is its age. Big firms are said to be more diversified and they may enjoy economies of scale as opposed to small firms (Frank and Goyal, 2003). As such age of a firm also influences financial performance of a firm. This study considered it as a control variable in evaluating the influence of leverage on financial performance of deposit taking SACCOs.

SACCO category: On the other hand, SACCOs are formed around a group of members who have common interest or come from same geographical area. They may be employees based SACCOs for employees of Government and quasi government employees and employees of private companies. Other SACCOs are formed by farmers and community groups with common interest such as Matatu SACCOs. The various categories of SACCOs may influence their performance (SASRA Supervision report, 2013). Therefore, the study included SACCO category as control variable in assessing the influence of leverage on financial performance of SACCOs.

2.5 Empirical Literature Review

The discussion below will give the measure of both the explanatory and the explained variable along with the expected results of the research based on the capital structure theories and findings from other similar studies. Emaid (2007) evaluated the relationship between capital structure and performance in Ghanaian banks. He used the following explanatory variables; leverage ratio as a ratio of total debt to total capital; short term debt ratio measured by short term debt to capital long term debt to capital ratio. He also used risk, asset structure, tax, size and growth as control variables. The explained variable in this study were profitability. The study showed negative relationship between profitability and leverage in support of pecking order theory. The study also revealed that banks use short term debt over long term debt.

Ebaid (2009) conducted a similar study on companies listed in Egyptian stock market from 1997 to 2005. He used return on asset (ROA), return on equity (ROE), and gross profit margin (GPM) as measure of performance against total debt, long term debt and short term debt as the explanatory variables. The paper used firm size as the control variable and found negative influence of short term debt on return on asset (ROA), no influence between long term debt (LTD) and return on asset (ROA). He found no relationship between all levels of debt and gross profit margin (GPM) as well as with return on equity (ROE).

Abbadi and Abu- Rub (2012) carried a research on the relationship between performance in terms of market efficiency and capital structure of Palestinian financial institutions. In this study the researchers used bank deposit to total assets, total loans to total assets, and return on assets total loans to total deposits as measures of capital structure. On the other hand, the researchers used return on equity and Tobin's Q as a measure of bank efficiency. Their conclusion was that leverage has negative effect on bank profit measured by return on equity (ROE) also a negative impact on market value as measured by Tobin's Q.

Berger and Di Patti (2002) carried out a similar research using a two equation structural model which they estimated using two stage least squares. They tested the agency cost hypothesis by regressing profit efficiency as measure of performance against equity to capital ratio as measure for leverage and ownership structure as control variables. They also conducted regression analysis of equity capital ratio on firms profit efficiency to test for efficiency risk and franchise value hypothesis. Their findings were that there is a positive link between capital structure and firm's performance. Pratomo and Ishmail (2006) had similar conclusion following their study conducted in Malaysia in that they found that high levered firms had higher profit efficiency thus concurring with the agency hypothesis.

Coleman (2007) carried a research on effect of capital structure on fifty two firms in Ghana. He used unique data of outreach and default rate as the dependent variables. He argued that these variables capture the success and sustainability of micro finance institutions. His independent variables were; short term debts to total assets, long term debts to total assets, and total debts to total assets. He also included firm size, risk level and firm

age as control variables. His findings were that long term debt to capital ratio had positive but insignificant influence on outreach while short term debt had positive influence on outreach. This he argued could be explained by the fact that short term debt puts pressure on management to perform. On default, his findings were that total debt to total assets had significant and positive influence on default thus arguing that this shows that management exerts pressure on repayment in order to meet debt obligations. Size and risk had inverse relationship with performance whereas age showed a positive link with performance.

Saeed, Gull and Rasheed (2013) carried out a multiple regression test on twenty five banks listed in Karachi Stock exchange from 2007 to 2011. They found a positive link between short term debt and return on asset, return on equity and earnings per share. They also found that long term debt had negative relationship with return on assets, return on equity and earnings per share while total debt has positive relationship with all the three performance measures. In this study the researchers used firm size and asset growth as the control variables.

Ebrati, Emadi, Balasang and Safari (2013) carried out a study on impact of capital structure on firm performance in eighty five firms listed in Tehran stock exchange. They used return on asset (ROA), return on equity (ROE), market book value of equity (MBVR), earnings per share and Tobin's Q as measure of financial performance. They also used short term debt to total assets, long term debt to total assets total debt to total assets and total debt to total equity as a measure of leverage. They found no significant relationship between earnings per share and return on asset and short term debt and long term debt.

Gweny & Karanja (2014) looked at the effect of leverage on financial performance of deposit taking SACCOs in Kenya. The research was based on 40 SACCOs which were registered by SASRA from year 2010 to year 2013. They employed correlation analysis to determine the relationship between debt equity ratio as the explanatory variable and return on equity, return on asset, profit after tax and income growth as measure of firm performance. Their results were that there was strong positive correlation between debt equity ratio and return on equity (ROE) as well as debt equity ratio and profit after tax both at 99%. On the contrary they found that there was a weak correlation between debt equity

ratio and return on asset (ROA). Their study however had limitations in that they used simple correlation matrix to determine the relationship of the variables.

Opala (2014) researched on the effect of financial stability on performance of deposit taking SACCOs in Nairobi County. He found out that all the parameters of financial stability used in the study that is capital adequacy, Sacco size, management quality and liquidity had a positive influence on financial performance of the SACCOs. Financial performance was measured in terms of Return on Capital Employed (ROCE). The study was carried out on 34 deposit taking SACCOs in Nairobi County.

Ongaki (2014) also carried out a similar research on determinant of profitability on deposit taking SACCOs and micro finance institutions in Nairobi County. He notes a positive link between how a Sacco is financed, the gearing ratio and profit after tax but weak positive link between liquidity and profit after tax. Other studies done in this area include, Muinde (2014) who evaluated financial structure and growth of wealth of SACCOs in Machakos county, Mwandu (2014) who looked at impact of liquidity and capital structure. Similarly studies include, Kivuvu and Olweny (2014) noted insolvency as a major risk to Deposit taking SACCOs in Kenya

2.6 Conceptual Framework

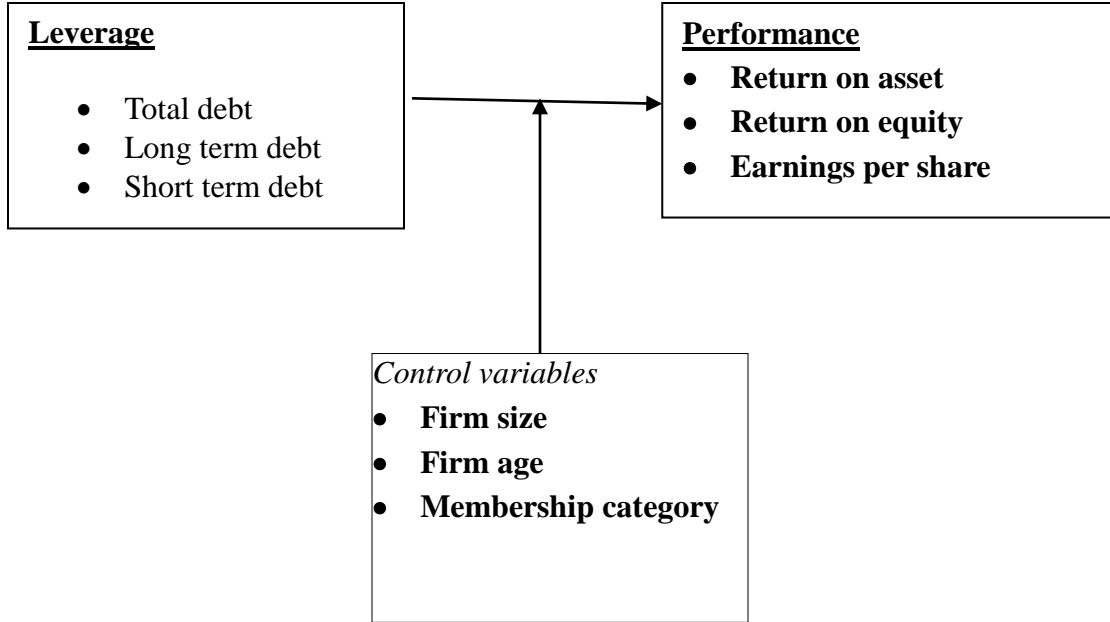
Conceptual framework is used in research to outline possible courses of action or to present a preferred approach to an idea or thought (Mugenda & Mugenda, 2003). In this study, the research considers the independent variable to be capital structure and the dependent variable is performance of deposit-taking.

This conceptual framework is diagrammatically demonstrated in Figure 2.1 below. The dependent variable in this study is Debt ratio/capital structure measured in terms of total debt, long term debts and short term debts. The independent variable is financial performance measured in terms of accounting measures of return on assets, return on equity and earnings per share.

Figure 1: Conceptual framework

Independent variables

Dependent variable



2.7 Operationalization of the Variables

Table below explains the variables which were used in the study, their measure and explanation;

Table 1:

Variables, Measure and Explanations

Variable	Computation	explanations
Total debts ratio	Total liabilities / Total assets	Measures the ratio of all firm’s debt to its total assets.
Long term debt ratio	Long term debt / Total assets	Long term debt (LTD) is defined as debt payable more than one year after date of issue also called funded debt which is obtained by dividing total long term debt by total assets.

Short term debt ratio	Short term debt /Total assets	Short term debt refers to current liabilities or debt due in one year's time. The ratio is obtained by dividing total short term debt to total capital while total debt is expressed as a ratio of total debt to total capital.
Return on assets(ROA)	profit before interest and tax / total assets	return on assets (ROA) is a measure of profit earned after tax out of total assets. It is obtained by dividing profit before interest and tax by total assets.
Return on equity(ROE)	profit before tax / shares capital and reserves	Return on Equity (ROE) is measured as profit before tax out of total shares capital and reserves
Earnings per share(EPS)	net profit/loss attributed to ordinary shareholders/ outstanding ordinary shares.	According to Sangster and Wood (1999) earnings per share (EPS) is an accounting measure of firms profitability
Firm size	<i>lnsales</i>	Measured by the sales size as a natural logarithm of total revenue.
Firm age	<i>years</i>	Number of year the Sacco has operated
Membership type	Government based , Teachers based SACCOs, Private company, Community based SACCOs, Farmers based SACCOs.	DTS are formed around a category of members who are in same occupation or geographical area (SASRA Supervision report, 2013).the membership categories are; Government based, teachers based SACCOs, private company, community based SACCOs and farmers based SACCOs.

Source: Author (2015)

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the research methodology that was used for this study. It discusses the research design, its characteristics and why it was preferred over other research designs. It also provides information on the population of the study, some background and key characteristics of the organization, which were studied. The chapter examined the sample frame and sample selection. It also provided information on the data collection method and the data collection instrument which were used in the survey. The chapter also looks at the research procedure including the pretesting and administration of the questionnaire. Finally, the chapter presents the data analysis method used and how the statistics generated from the study were analyzed.

3.2 Research Design

This study adopted a descriptive research design to analyze the effect of leverage on financial performance of deposit taking SACCOs in Kenya. The study was quantitative whereby data was obtained from secondary sources. The study used data limited to deposit taking SACCOs that were registered with Sacco Society Regulation Authority (SASRA) for the period from year 2011 to year 2014. Deposit taking SACCOs started filling reports with SASRA in 2011 and as at the time this study was conducted the last submitted reports were for 2014. This period gave a reasonable time for panel data analysis. The financial reports of regulated deposit taking SACCOs were also available in SASRA offices.

3.3 Target population and Sampling

The study targeted a population of all the deposit taking SACCOs in Kenya licensed by SASRA from year 2011 (See appendix I). There were 135 licensed deposits taking SACCOs by year 2014 but only 83 had been licensed by year 2010. Out of the 83 licensed deposits taking SACCOs, only 44 SACCOs had reliable and complete data across the our years; from 2011 to 2014. The financial reports that were obtained for year 2010 were very few hence the study opted to concentrate with year 2011 through to 2014. Our population was therefore narrowed down to 44 Deposit taking SACCOs licensed in 2011 through 2014 and whose data was readily available from SASRA offices.

3.4 Data Collection

This study used secondary data drawn from financial reports lodged with SASRA. Specifically data on leverage, that is total debt, long term debt and short term debt along with return on assets, return on equity, size, age and category of SACCOs were used. In this study, data collection methods involved collection of data from the audited annual reports of target population that is the deposit taking SACCOs in Kenya. This data was obtained from SASRA offices. The sample was obtained from SASRA reports dating back to 2011 up to year 2014. After data was gathered it was checked for missing values, unusual observations and completeness. This was to ensure that data used was relevant and pertinent to the purpose of this study. After his exercise records of 44 SACCOs were found to be complete and usable.

3.5 Data analysis

Descriptive statistics were used to examine the basic structure of the data – the central tendency, and spread between SACCOs. This study applied panel regression data analysis. This is because data had combined variation across SACCOs and time for each SACCO. Panel data also increases number of observations and hence is instrumental in analyzing change and dynamics. Time observed was data from 2011 to 2014 audited reports of 44 SACCOs. The study employed panel data regression model of the form;

$$Y_{ROEit} = \beta_0 + \beta_1 TD_{it} + \beta_2 LTD_{it} + \beta_3 STD_{it} + \beta_4 SIZ_{it} + \beta_5 AGE_{it} + \beta_6 CAT_{it} + w_{it} \dots \dots \dots (1)$$

$$Y_{ROAit} = \beta_0 + \beta_1 TD_{it} + \beta_2 LTD_{it} + \beta_3 STD_{it} + \beta_4 SIZ_{it} + \beta_5 AGE_{it} + \beta_6 CAT_{it} + w_{it} \dots \dots \dots (2)$$

$$Y_{EPSit} = \beta_0 + \beta_1 TD_{it} + \beta_2 LTD_{it} + \beta_3 STD_{it} + \beta_4 SIZ_{it} + \beta_5 AGE_{it} + \beta_6 CAT_{it} + w_{it} \dots \dots \dots (3)$$

Where;

- Y_{ROEit} = Return on Equity
- Y_{ROAit} = Return on assets
- Y_{EPSit} = Earnings per share
- X_{TDit} = total debt
- X_{LTDit} = Long term debt
- X_{STDit} = Short term debt
- X_{SIZit} = Firm Size

X_{AGEit} = Firm Age
 X_{CATit} = membership category

$$w_{it} = \varepsilon_i + u_{it}$$

Where ε_i = cross-sectional or individual SACCO specific error term

u_{it} = error component; $i=1, 2, 3 \dots 44$; $t=1, 2, 3, 4$

In the model, β_0 = the constant term while the coefficient β_i , $i = 1, 2, \dots, 6$, used to measure the sensitivity of the dependent variable (Y) to unit change in the predictor variables. μ is the error term which captures the unexplained variations in the model.

In this study analysis was conducted in three stages; first, exploratory data analysis was conducted to determine if there was any visually detectable time and panel related effects. Existence of such would have an impact on the type of panel regression models to be fitted. In the first instance, data was inspected visually to examine existence of time trend. This shows how within-panel effects vary with time. Diagnostic analysis was conducted to check existence of serial correlation and heteroscedasticity. A diagnostic test on the appropriateness of using simple OLS regression model against random effects model was also done using the Breusch Pagan LM test. Lastly, the researcher tested the most appropriate panel data regression model that best suited the data by conducting a Hausman test.

CHAPTER FOUR

DATA ANALYSIS AND FINDINGS

4.0 Introduction

This chapter presents the findings of the study on how leverage influenced financial performance in deposit taking SACCOs. The chapter discusses data analysis for the data obtained from SASRA for 44 licensed deposit taking SACCOs. The first section discusses visual properties of the data as well as its descriptive characteristics. In the section that follows, results of diagnostic tests are presented, with the succeeding section presenting results from panel data analysis. A sample of 83 Deposit taking SACCOs licensed in 2010 was selected consisting of the management of the Deposit taking SACCOs in Kenya.

The results are presented in the form of summary tables. In addition a regression analysis is used to analyze the data to answer the research objective and to establish the strength of the relationship between the variables under consideration, correlation analysis is performed. Discussions of these results are presented in this chapter in graphical form, tables and prose form to enhance great usability.

4.1 Exploratory Data Analysis

Exploratory data analysis was necessary to determine if there was any visually detectable time and panel related effects. Existence of such would have an impact on the type of panel regression models to be fitted. In the first instance, data was inspected visually to examine existence of time trend. This shows how within-panel effects vary with time. Figure 2 below shows ROA growth plots for SACCOs over the four year period. The growth plots show that for most firms there was no trend in ROA. However, SACCOs 5, 12, 19 and 33 seem to have an increasing ROA while SACCO number 40 has declining ROA towards end of the period. No significant fluctuation was noted among the SACCOs.

Figure 2:

Growth Plots for Individual SACCOs ROA

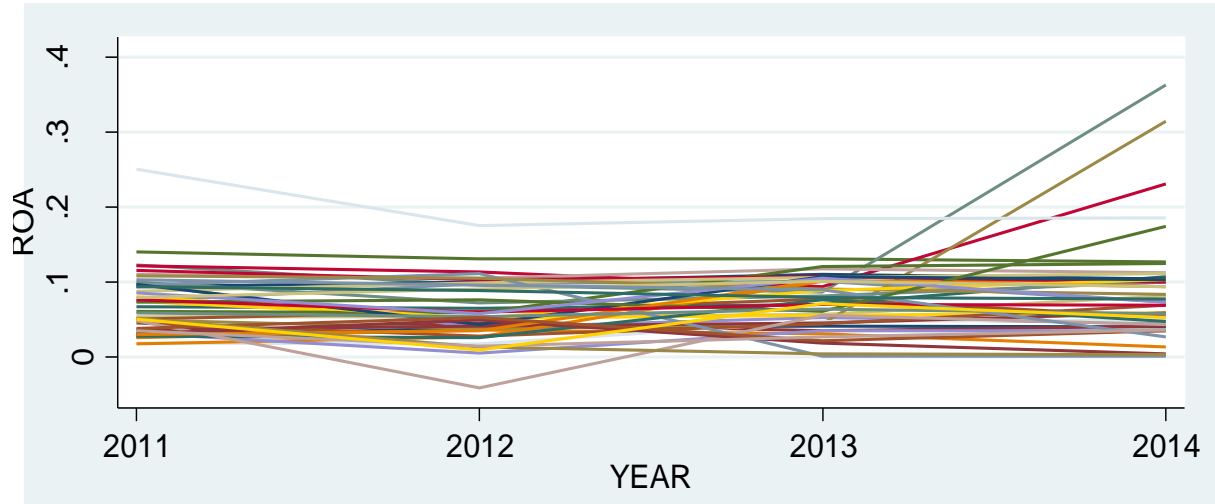


Source: Author (2015)

Similarly, an overlaid plot of the SACCOs return on assets – shown in figure 3 below – did not reveal significant time trend, although the intercepts appeared different. Time related effect appeared negligible in both plots.

Figure 3:

Overlaid Plot of the SACCOS Return on Assets

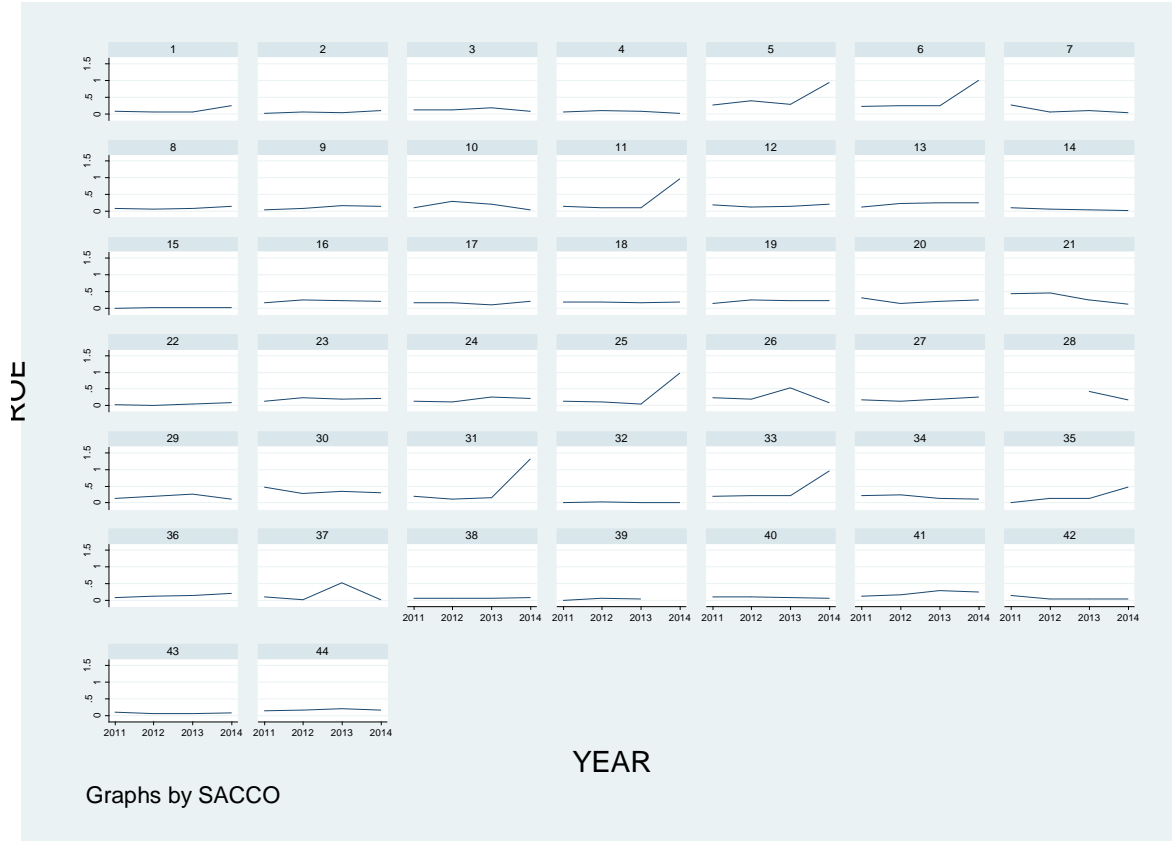


Source: Author (2015)

In Fig. 4 below the growth of ROE appears unaffected by time for most SACCOS. It is noted, however, that SACCO number 28, had unusual significant fluctuation. All other SACCOS did not display major fluctuations. The overlain plot in fig. 5 displays similar results. There is no visual evidence of ROE changing significantly with time although the intercepts appear to be different.

Figure 4:

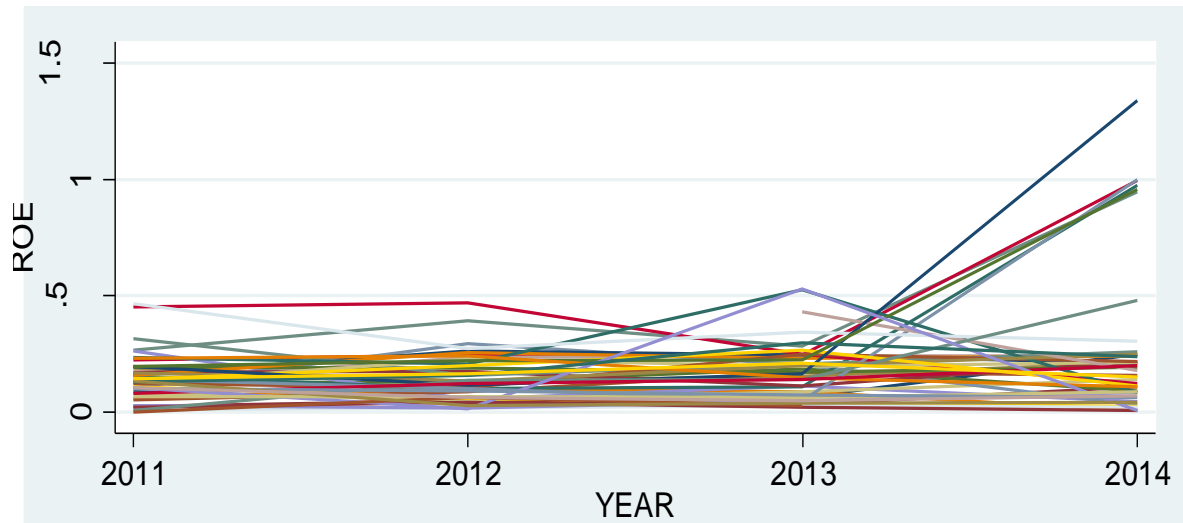
Growth Plots for Individual SACCOs ROE



Source: Author (2015)

Figure 5:

Overlain Plot for ROE

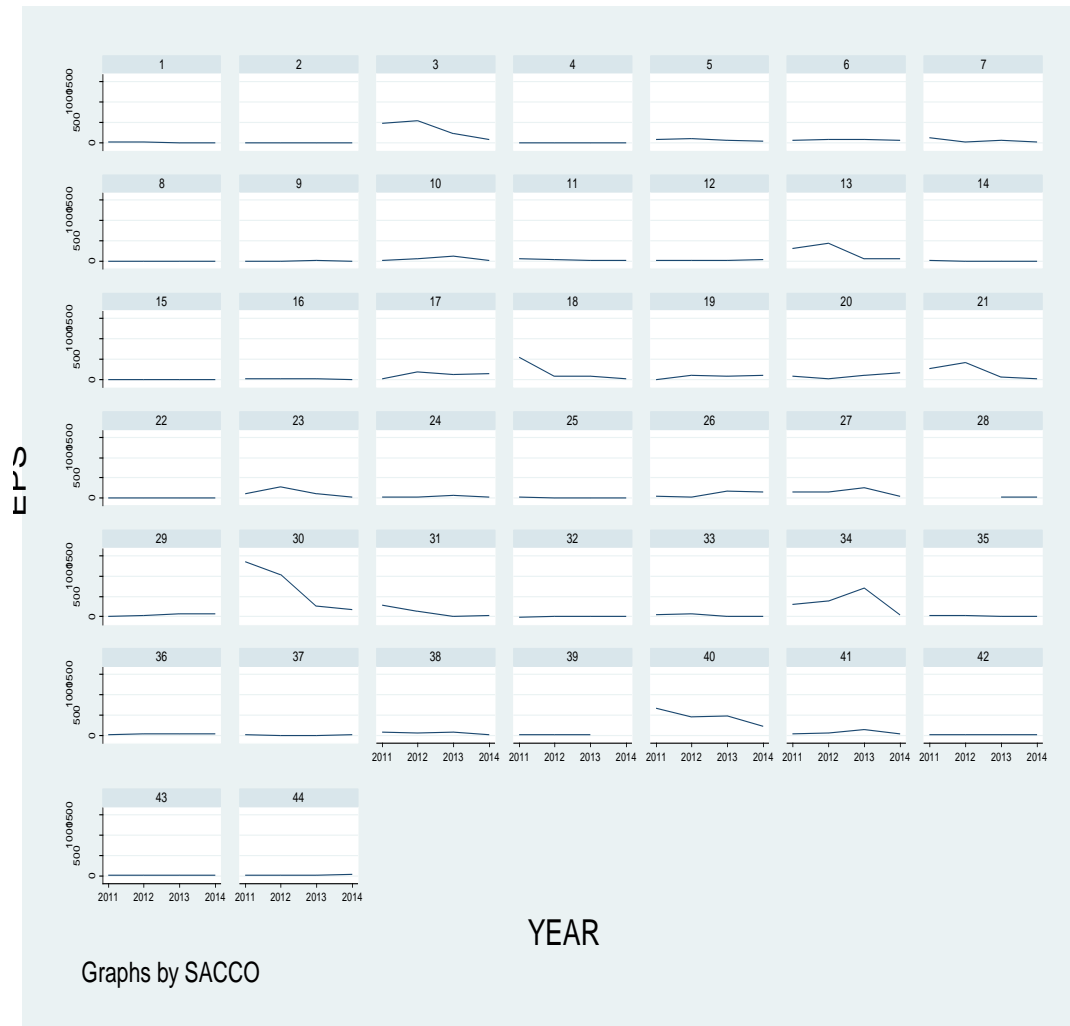


Source: Author (2015)

Figure 6 shows the time plot for EPS with SACCOS 4,18,21,30 and 34 showing some fluctuation. Figure 7 shows the overlain plot for EPS. The plot shows no major time related effect but also shows differing constant across SACCOS.

Figure 6:

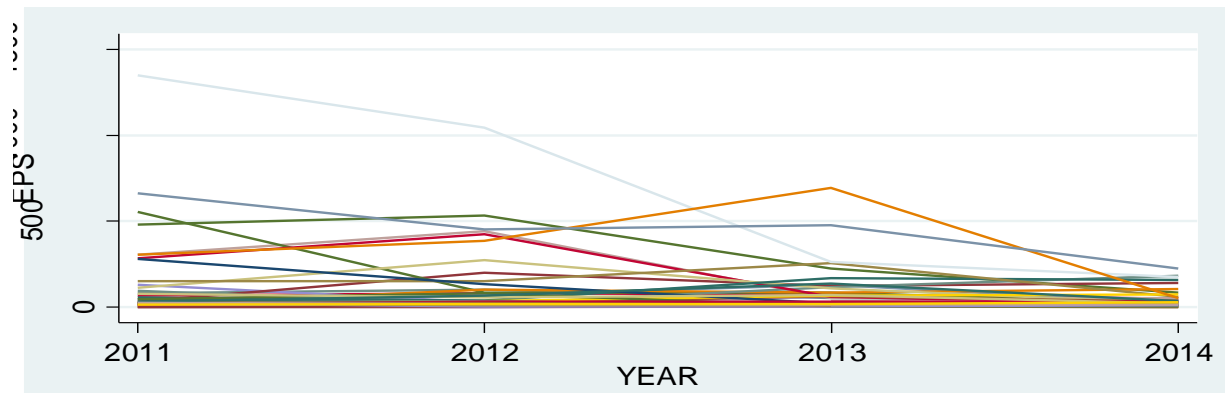
Growth Plots for Individual SACCOs EPS



Source: Author (2015)

Figure 7:

Overlain Plot for EPS



Source: Author (2015)

Descriptive statistics analysed below also tallied with the graphs in that they showed that the variation between and within the variables were negligible. They also showed category as a time invariant variable. However, EPS variable had huge variation. As a results the study used natural logarithm of EPS to minimize the variation.

Table 2:**Descriptive Statistics**

Variable		Mean	Std. Dev.	Min	Max	Observations
ROA	overall	0.073996	0.050074	0.000225	0.3630752	N = 175
	between		0.038389	0.017609	0.1989281	n = 44
	within		0.032469	-0.00625	0.2768343	T-bar = 3.97727
ROE	overall	0.183767	0.195219	7.77E-05	1.33966	N = 173
	between		0.11849	0.017169	0.471706	n = 44
	within		0.15614	-0.154	1.070212	T-bar = 3.93182
EPS	overall	91.79933	175.9771	0.001244	1349.082	N = 173
	between		138.397	0.672786	706.4735	n = 44
	within		109.0487	-442.017	734.4082	T-bar = 3.93182
TD	overall	0.875822	0.661571	0.004648	7.509675	N = 176
	between		0.347352	0.347676	2.408847	n = 44
	within		0.564881	-1.11938	5.976651	T = 4
SZE	overall	18.79364	1.343201	15.15897	22.07859	N = 176
	between		1.267413	16.01423	21.86017	n = 44
	within		0.474753	15.74854	20.35658	T = 4
AGE	overall	33.09091	10.4697	8	54	N = 176
	between		10.49987	9.5	52.5	n = 44
	within		1.121224	31.59091	34.59091	T = 4
CAT	overall	2.931818	1.03422	1	5	N = 176
	between		1.0432	1	5	n = 44
	within		0	2.931818	2.931818	T = 4

Source: Author (2015)

4.2 Diagnostic analysis

This section conducted diagnostic analysis by checking for existence of serial correlation and heteroscedasticity. A diagnostic test on the appropriateness of using simple

OLS regression model against random effects model was also done using the Breusch Pagan test.

4.2.1 Test for serial correlation and heteroscedasticity

A test for serial correlation was conducted to test first order autocorrelation among the variables. The study employed Wooldridge (2002) test for autocorrelation in panel data to test the presence of first order autocorrelation in the three models. The results are tabulated in table 4.2 below shows the p - value for model 1 was above 0.05 thus indicating non-existence of first order correlation. The p – value for models 2 and 3 showed presence of first order correlation because p – value < 0.05.

Likewise, the study conducted a test for Heteroscedasticity the among variables. The study employed Wald test for groupwise heteroscedasticity in fixed effect regression model as discussed Greene (2000). The results of the test are shown in table 3 below. The results indicated presence of heteroscedasticity for all the three models. Due to the presence of serial correlation and heteroscedasticity, data analysis used White’s robust standard errors to compute the test statistics.

Table 3:

Results for Heteroscedasticity and Serial Correlation tests

Model	Dependent Variable	Heteroscedasticity		serial correlation	
		X ² value	p - value	F-value	p-value
1	ROA	61124.06	0.0000	0.011	0.9154
2	ROE	3.3e+05	0.0000	7.116	0.0107
3	lnEPS	3.00E+33	0.0000	12.469	0.0010

Source: Author (2015)

4.2.2 Testing for simple pooled regression model

In this test, an analysis was conducted to test if simple pooled regression model or random effects model should be used in the data analysis. The study employed the Breusch-Pagan (1980) Lagrangian multiplier (LM) test for randomness to test if the entities variances are zero

in which case there would be no panel effects and therefore no need for random effects model. The test results are shown in table 4 below.

Table 4:

Chi-Square values for Breusch-Pagan LM Test

Model	Dependent variable	X²-value	p-value
1	ROA	40.51	0.0000
2	ROE	2.89	0.0447
3	EPS	79.28	0.0000

Source: Author (2015)

As shown above the three models yielded p-values < 0.05. This implied that the variances across SACCOs are significantly different from zero. This meant that random effects model is more appropriate over simple OLS regression.

4.3 Panel Data Analysis

From the previous analysis, use of random effects model was preferred to cater for the time invariant variable in the data. The random effects models with robust error were also preferred for all the models to cater for serial correlation in model 3 and heteroscedasticity in all the models. The results of random effects model are presented and discussed below.

Table 2:**Random effects panel regression on Return on Assets**

ROA	Robust Coef.	Std. Err.	z	P>z	95% Conf. Interval	
TD	0.2348	0.0976	2.41	0.016	0.0435	0.4261
LTD	-0.1721	0.0773	-2.23	0.026	-0.3238	-0.0205
STD	-0.0389	0.0451	-0.86	0.388	-0.1275	0.0496
SIZE	0.0132	0.0027	4.80	0.000	0.0078	0.01862
AGE	0.0009	0.0003	2.36	0.018	0.0002	0.00167
CAT	0.0164	0.0058	2.81	0.005	0.0050	0.02787
_cons	-0.2775	0.0659	-4.21	0.000	-0.4068	-0.1482
Prob > chi2 =		0.0000				
R-sq: within =		0.2322				
Between =		0.3023				
overall =		0.2723				

Source: Author (2015)

Table 5 above shows results of random effects panel data model for return on assets. From the results, all the variables had a significant influence on return on assets apart from short term debt to asset ratio which had insignificant influence. Total debt to asset ratio had a positive relationship with return on asset same is size, age and category of SACCO. Long term debt to total asset ratio had a negative but significant relationship with return on asset. This means that an increase in long term debt to assets ratio will lead to decrease in return on assets. Conversely, increase in total debt to assets ratio leads to increase in returns on assets. The more the SACCO has been in existence and the bigger the size (in terms of turnover), the better the return on assets.

Table 6:

Random effects panel regression on Return on Equity

ROE	Coef.	Robust Std. Err.	z	P>z	[95% Conf.	Interval]
TD	-0.1775	1.0962	-0.16	0.871	-2.3262	1.9711
LTD	-0.3625	1.2607	-0.29	0.774	-2.8334	2.1084
STD	0.5601	0.2601	2.15	0.031	0.0504	1.0699
SZE	0.0315	0.0199	1.58	0.114	-0.0076	0.0706
AGE	0.0006	0.0012	0.49	0.622	-0.0018	0.0031
CAT	0.0349	0.0202	1.73	0.084	-0.0047	0.0744
_cons	-0.5315	0.4014	-1.32	0.185	-1.3182	0.2552
Prob > chi2	=	0.0257				
R-sq:	within =	0.0155				
	between	0.2131				
	overall =	0.0729				

Source: Author (2015)

Table 6 above represents random effects panel data regression of Return on Equity. The model also shows that total debt and long term debt are insignificant in explaining the return on Equity in SACCOS. Same is the age, size and category of SACCOS. Short term debt has positive significant relationship with return on equity in SACCOS. This means that an increase in one unit of short term debt to assets ratio increases return on equity by 0.56 units. The overall model was seen to be appropriate with p - value < 0.05.

Table 3:**Random effects panel data regression on Earnings per Share**

lnEPS	Coef.	Robust Std. Err.	z	P>z	[95% Conf. Interval]	
TD	-2.4679	6.5596	-0.38	0.707	-15.3246	10.3887
LTD	2.4614	5.5842	0.44	0.659	-8.4834	13.4061
STD	0.0213	2.1272	0.01	0.992	-4.1480	4.1905
SZE	0.0526	0.1383	0.38	0.704	-0.2184	0.3236
AGE	-0.0009	0.0191	-0.05	0.963	-0.0384	0.0366
CAT	0.2968	0.2980	1.00	0.319	-0.2873	0.88096
_cons	1.3297	2.9503	0.45	0.652	-4.4528	7.1122
Prob > chi2 =		0.9688				
R-sq: within =		0.0078				
between =		0.0565				
overall =		0.0395				

Source: Author (2015)

From table 7 above representing random effect panel data regression of Earnings per share, all the variables were seen to be insignificant in explaining the earnings per share in SACCOs.

CHAPTER FIVE

DISCUSSIONS AND CONCLUSIONS

5.1 Introduction

The chapter discusses the study findings as well as the conclusions based on the study findings. The discussion is based on the study objectives as well as comparing the study results with results of literature based on similar studies. The purpose of this study was to assess the influence of leverage on financial performance of deposit taking SACCOs in Kenya. The three objectives were accomplished and are discussed in this chapter.

5.2 Effect of Debt Ratio on the Financial Performance in Deposit Taking SACCOs

From the study total debt to asset ratio was positively linked to return on assets meaning that, an increase in firm's total debt increases its return on assets. These results were similar to Saeed, Gull and Rasheed (2013) and Pratheepkanth (2010). However, Ebrait, Emaid, Balasang and Safari (2013) and Ebaid (2003) found negative link between total debt to asset ratio and return on assets. This supports the capital structure theory that increasing leverage increases firm's financial performance. In particular this is in support of capital structure irrelevance theory and agency cost theory of capital structure. A levered firm gives more value to shareholders and also helps minimize the agency problem thus ensuring higher returns to shareholders.

The results also showed insignificant relationship between total debt to assets ratio and return on equity as well as total debt to assets ratio to earnings per share. The results were similar to Ebaid (2009) who found no link between all levels of debt and return on equity as well as gross profit margin. However, Saeed, Gull and Rasheed (2013) found a positive link between total debt to assets ratio and return on assets. The two measures of performance that is, return on equity and earnings per share were not explained by the explanatory variables.

Long term debt to assets ratio on the other hand was found to be negatively related to return on assets and return on equity. It however had insignificant relationship with earnings per share. An increase in firm long term debt reduces its return on assets and return on equity. Saeed, Gull and Rasheed (2013) found similar results in their study of banks listed in

Tehran stock exchange. This means that an increase in long term debt reduces the return on assets as well as return on equity. This is in favor of pecking order theory which argues that profitable firms borrow less as they prefer to finance their operations from internal sources such as retained earnings before they move to external financing. Thus firms with more long term debt are expected to have low profitability.

Short term debt on the other hand was found to have insignificant relationship with all the explained variables. However, Ebaid (2009) found a negative significant link between short term debt and return on assets although he also found insignificant link between short term debt and profitability measure gross profit margin and return on assets. The study was carried out for firms listed in Egyptian stock exchange. Ebrahimi, Emadi, Balasang and Safari (2013) also found insignificant link between short term debt and earnings per share. This means that the level of short term debt to total assets does not significantly influence the performance of SACCO in terms of return on asset, return on equity and earnings per share.

The control variables used in the model, that is size and age of the SACCO were also evaluated. Size had negative link with return on equity, a negative link with return on assets and insignificant relationship with earnings per share. This could be explained by the fact that the larger the SACCO the more the earnings. However, large SACCOs may have more shares and capital reserve thus reducing the overall return on equity. On the other hand age of SACCO was seen to have positive link with return on equity but negative link with earnings per share. It however had insignificant relationship with return on assets. This could be attributed to the fact that, SACCOs have unique model where members contribute savings to access credit. SACCOs are also not listed in stock market. The contributions to SACCOs are normally in terms of deposit rather than shares. It is only recently with the new SASRA regulations that SACCOs have started mobilizing share capital to meet minimum requirements by the regulator. Consequently, earnings per share in SACCOs seem to be high at an average of 89.26. Return on equity is also relatively high at an average 16.6 but not as high as earnings per share since SACCOs have accumulated reserves which are included in calculation of earnings per share. This same reason can explain the positive link between age of SACCO and return on equity in our model. Return on assets on the other hand which was obtained by dividing profit before interest and tax by total assets seems to give a more

appropriate measure of performance in SACCO model.

5.3 Conclusions

From the above analysis we conclude that different levels of debt affect financial performance in deposit taking SACCOs differently. The positive link between total debt and return on asset support the proposition of Modigliani and Miller that a levered firm has higher value. It also mirrors the agency cost theory in that the higher the debt financing the more likely the high financial performance of a firm. While the negative link between long term debt and return on equity shows that firms with high long term debt have low return on asset and return on equity. This matches with the pecking order theory in that the more profitable the firm the less the debt financing since firms prefers to finance itself internally. Size and age support theoretical argument in that they are positively related to the SACCOs' financial performance

5.4 Recommendations

This study looked at influence of debt financing in financial performance of SACCOs. The study found that total debt and short term debt to assets ratio had a positive influence on return on assets and return on equity respectively. It also found a negative link between long term debt financing and performance of SACCOs as measured by return on assets. Based on these findings, debt financing is a n important element of capital structure decisions in SACCOs. The theories of capital structure apply in deposit taking SACCOs in that the level of debt has influence on their financial performance. Managers should therefore employ debt financing as a source of capital along with other sources of capital. The study also recommends that managers in SACCOs should focus more on short term debts to finance their operations rather than long term debts in order to give favorable financial results.

5.5 Suggestions for Further Research

The study suggest that further study can be done that will cover more lengthy period. This would augment the findings of this study since it would give more observations for panel data analysis. A causality study can also be conducted to determine how leverage and financial performance are interrelated. There are some other factors found which also affect the deposit-taking SACCOs' financial performance which are not focused in this study. Key

among the factors include; the regulations and restrictions from the Central Bank of Kenya, ownership structure, cost of working capital, management of SACCO's assets and liabilities. There is need for further investigation to determine their effect and ascertain their influences on financial performance of SACCOs.

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APPENDICES

Appendix I: List of Licensed Deposit Taking SACCOs

SACCO NAME	
1	SACCO NAME
2	AFYA SACCO
3	ASILI SACCO
4	BANDARI
5	BARAKA(MATHIRA TEA)
6	BIASHARA
7	BINGWA/KIRINYAGATEA
8	BORABU FARMERS TEA /vision point
9	BURETI TEA
10	CHAI SACCO
11	CHEPSOL TEA GROWERS
12	COMOCO
13	GITHUNGURI DAIRY
14	GUSII MWALIMU
15	HARAMBEE SACCO
16	IRIANYI TEA/ kenya acheivas
17	JAMII SACCO
18	K UNITY FINANCE
19	KAKAMEGA TEACHERS
20	KENPIPE SACCO
21	KENYA CANNERS
22	KENYA POLICE SACCO
23	KIAMBAA DAIRY RURAL
24	KILIFI TEACHERS/IMARIKA
25	KINGDOM SACCO
26	KIPSIGIS TEACHERS
27	KITE

28	KITUI TEACHERS
29	KMFRI
30	MAGADI SACCO
31	MOMBASA PORT
32	MOMBASA TEACHERS/mafanikio
33	MUMIAS OUTGROWERS /nitunze
34	MURAMATI
35	MWALIMU SACCO
36	MWITO
37	NANDI HEKIMA
38	NAROK TCHERS SACCO
39	NDEGE CHAI
40	NYAMIRA TEA FARMERS
41	NYERI TEACHERS
42	SAFARICOM SACCO
43	SIAYA TCHERS SACCO
44	TAI/KIAMBU TG

SACCO CATEGORIES

CATEGORY NAME

- 1 Government SACCO
- 2 Teachers SACCO
- 3 Framers SACCO
- 4 Private Institutions
- 5 Community based SACCOs

Appendix II: Research Work Plan

Activity	TIMEFRAME															
	Month 1				Month 2				Month 3				Month 4			
	Week				Week				Week				Week			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Topic selection & approval																
Supervisor appointment																
Produce draft proposal																
Incorporate reviews by supervisor																
Draft proposal ready for presentation																
Incorporation of panel comments into proposal																
Data collection from selected sample																
Data processing and analysis																
Review of draft project by supervisor																
Incorporate supervisor comments																
Supervisor Clears Project																
Finalization and delivery of copies to board of postgraduate studies																

Appendix III: Estimated Research Budget

Item Description	Qty Description	Quantity	Unit Price - KShs	Cost- KShs
Stationery	pieces	1	2,500	2,500
Photocopying Services	pages	2000	3	6,000
Spiral binding	pieces	20	100	2,000
Book binding	pieces	10	400	4,000
Travel Charges	person	1	600	6,000
Research Assistants for data collection	person	2	10,000	20,000
Research Assistants for data analysis	person	2	10,000	10,000
Contingency				10,000
Total				60,500